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CENTRAL FAX CENTER
JAN 05 2007**D. Remarks**

Based on the above amendments and remarks that follow, reconsideration of this application is respectfully requested.

In the office action drawings were objected to because the unknown errors " df_{st} " and " df_{ct} " in figure 1 did not correspond to the unknown errors " δf_{st} " and " δf_{ct} " discussed in the specification. Further, the drawings were objected to under 37 CFR 1.83(a) for not showing every feature of the invention specified in the claims.

Claims 2-3, 5 and 7 were objected to due to informalities in the claim language. Claims 1-7 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite. Claims 1-7 were rejected due to insufficient antecedent basis. Furthermore, in claim 1, the computing steps (d) and (f), in claim 2, steps (h) and (i), in claim 6, steps (d) and (f), and in claim 7, steps (h) and (i) lack cooperation with the other steps in the claims 1, 2, 6 and 7 respectively. Also, in claim 2, steps (a) to (k) are confusing since claim 1 already used steps (a) to (f). Also, in claim 4, the phase error estimator, the carrier frequency estimator and the clock error estimator lack connection with the other claimed elements.

Enclosed herewith is a Form PTO-1449 listing reference which applicants wish to have considered in this examination, together with a copy of a publication. The US patents listed are the US patent and the US counterparts of the Non-US patents described at page 3 of the specification. Also listed, and a copy enclosed, is the publication of the present inventors described at page 12 of the specification, it is to be noted that this publication was *not* published more than a year prior to the provisional application from which this application claims priority, so that it is not admitted that this

publication is effective "prior art". It is requested that Deposit Account No.502158 be charged for the reference consideration fee as well as for any other fees required for entry of this amendment.

In the specification, δf_{st} , δf_{ct} , δf_{cr} , and δf_{sr} have been changed to df_{st} , df_{ct} , df_{cr} , and df_{sr} respectively to correspond with the drawings. It is respectfully submitted that the applicant intended these terms to be the same in the patent application and drawing and the error was due to a formatting error.

Further, the sampler, the symbol boundary estimator, the phase error estimator, the carrier frequency offset estimator and the clock error estimator have been removed from claim 4, and claim 5 has been canceled without prejudice to remove any issue with respect thereto.

Claims 2-3 and 7 have been amended to eliminate the informalities as pointed out by the examiner.

Claims 1-4, and 6-7 have been amended provide antecedent basis as discussed below.

Independent claim 1 and claims 2 and 3:

In clause (a) of claim 1, "baseband of the frequency spectrum" has been replaced with "baseband signal". The support for the same can be found in the description at page 7, line 8. Further, in clause (b) of claim 1, "sampling the down-converted signal at a pre-defined sampling rate to obtain samples of the received signal" has been replaced with "sampling the baseband signal at a predefined sampling rate to obtain samples of the baseband signal, wherein the sampled baseband signal comprises a plurality of symbols". The support for the same can be found in the

description at page 6, lines 12-15 and page 9, lines 4-6. Furthermore, in clause (d) of claim 1, "computing the maximum likelihood estimate of the mean of the phase error" has been replaced with "computing a maximum likelihood estimate of a mean of phase errors using the samples of the baseband signal with the estimated symbol boundary". In clause (f) of claim 1, "computing the maximum likelihood estimate of the clock error" has been replaced with "computing a maximum likelihood estimate of a clock error using the maximum likelihood estimate of the carrier frequency offset" to establish cooperation with the other steps.

In claim 2, steps (a) to (k) have been re-numbered as (i) to (xi) respectively to avoid confusion with steps (a) to (f) of claim 1. Clause (xi) of claim 2, "repeating steps b-j until the value of the counter reaches a value L " has been replaced with "repeating steps ii-xi until the value of the counter reaches a value L to obtain the maximum likelihood estimate of the mean of the phase errors, L being an estimation length in terms of a number of Differential Binary Phase Shift Keying symbols" to achieve the objective of computing the maximum likelihood estimate of the mean of the phase errors in claim 2. The support for the same can be found in the description at page 11, lines 8-13. It is respectfully submitted that the steps (i) to (xi) of claim 2 are different from the steps (a) to (f) of claim 1 and are used to achieve the objective of computing the maximum likelihood estimate of the mean of the phase errors as per clause (d) of claim 1. Further, clause (iv) of claim 2 has been amended to incorporate the requirement of sufficient antecedent basis. Furthermore, in step (vii) of claim 2, "performing a symbol decision on the phase angle" has been replaced with "performing a symbol decision on the phase angle to extract a differential angle" and in computing

step (viii) of claim 2, "computing the phase error introduced in the transmitted signals" has been replaced with "computing a phase error introduced in the transmitted training sequence from the phase angle of the differential symbol and the differential angle" to establish cooperation with the other steps. The support for the same can be found in the description at page 10, lines 4-9.

Independent claim 4 and claim 5:

In clause (a) of claim 4, "Down Converter" has been replaced with "multiplier and LPF". The support for the same can be found in the description at page 7, lines 4-5. Further, in clause (b) of claim 4, "Sampler" has been replaced with "Analog to digital Converter (ADC)". The support for the same can be found in the description at page 7, lines 9-11. Furthermore, in clause (c) of claim 4, "a Symbol Boundary Estimator estimating a symbol boundary using the samples of the received signal" has been replaced with "a maximum likelihood estimator, the maximum likelihood estimator configured for estimating a symbol boundary using the samples of the baseband signal, computing a maximum likelihood estimate of a mean of phase errors using the samples of the baseband signal with the estimated symbol boundary, computing a maximum likelihood estimate of a carrier frequency offset using the maximum likelihood estimate of the mean of the phase errors, and computing a maximum likelihood estimate of a clock error using the maximum likelihood estimate of the carrier frequency" and clauses (d) - (f) have been cancelled without prejudice to establish connection with other claimed elements and avoid entering of new matter. The support for the same can be found in the description at page 4, lines 18-20, page 5, lines 7-9, page 5, lines 16-26, page 6, lines 10-11, page 12, lines 26-29, page 13, lines 7-9, page

20, lines 10-11.

Claim 5 has been cancelled without prejudice

Independent claim 6 and claim 7:

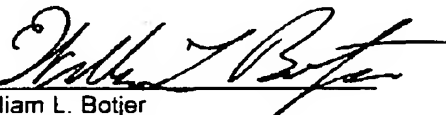
In clause (a) of claim 6, "baseband of the frequency spectrum" has been replaced with "baseband signal". The support for the same can be found in the description at page 7, line 8. In instruction means (b) of claim 6, "instruction means for sampling the down-converted signal at a pre-defined sampling rate to obtain samples of the received signal" has been replaced with "instruction means for sampling the baseband signal at a predefined sampling rate to obtain samples of the baseband signal, wherein the sampled baseband signal comprises a plurality of symbols". The support for the same can be found in the description at page 6, lines 12-15 and page 9, lines 4-6. Further, in instruction means (d) of claim 6, "instruction means for computing the maximum likelihood estimate of the mean of the phase error" has been replaced with "instruction means for computing a maximum likelihood estimate of a mean of phase errors using the samples of the baseband signal with the estimated symbol boundary" and in instruction means (f) of claim 6, "instruction means for computing the maximum likelihood estimate of the clock error" has been replaced with "instruction means for computing a maximum likelihood estimate of a clock error using the maximum likelihood estimate of the carrier frequency offset" to establish connection with the other instruction means.

In claim 7, steps (a) to (k) have been re-numbered as (i) to (xi) respectively to avoid confusion with steps (a) to (f) of claim 6. In instruction means (vii) of claim 7, "instruction means for performing a symbol decision on the phase angle" has been

replaced with "instruction means for performing a symbol decision on the phase angle to extract a differential angle", and in instruction means (viii) of claim 7, "instruction means for computing the phase error introduced in the transmitted signals" has been replaced with "instruction means for computing a phase error introduced in the transmitted training sequence from the phase angle of the differential symbol and the differential angle" to establish cooperation with the other steps. The support for the same can be found in the description at page 10, lines 4-9.

The present claims have been amended to incorporate the changes as suggested by the examiner and to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is respectfully submitted that the claims are now clearly patentable, and notice to that effect is earnestly solicited. If the Examiner has any questions regarding this matter, the Examiner is requested to telephone applicant's attorney at the numbers listed below prior to issuing a further action.

Respectfully Submitted,

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